

ABSTRACT OF THE DISCLOSURE

An upper limit guard value is set for a valve overlap amount according to a KCS learning value used to retard-correct an ignition timing in order to suppress knock, and an engine load. As a result, it is possible to make the upper limit guard value a value able to restrict the valve overlap amount to a value equal to, or less than, a value at which an internal EGR amount does not become excessive during a retard-correction of the ignition timing. By applying the upper limit guard to the valve overlap amount using the upper limit guard value, it is possible to suppress the valve overlap amount from increasing from the optimum value following a retard-correction of the ignition timing, as well as suppress the valve overlap amount from being reduced when it is not deviating from the optimum value and is below the upper limit guard value.